

L Number	Hits	Search Text	DB	Time stamp
2	4976	milliken	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 14:46
4	1717	(sateen or satin) same (weave)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 14:47
5	63898	(artificial or man-made or manmade or synthetic or simulat\$3) same (nap\$5 or pile or leather or vinyl)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 16:47
6	2	(fabric or textile or woven or cloth or leather) same (pile or nap\$5 or sheared) same (adhesive) same (film or layer) same ((sateen or satin) same (weave))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 15:06
7	16	((sateen or satin) same (weave)) same ((artificial or man-made or manmade or synthetic or simulat\$3) same (nap\$5 or pile or leather or vinyl))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 14:57
8	8637	((428/36.1,36.2,85-97,151,904) or (442/149-151,286,402) or (28/104,105,107,159,167,216,217)).CCLS.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 15:06
9	30054	(fabric or textile or woven or cloth or leather) same (pile or nap\$5 or sheared or tuft\$4 or floc\$5)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 16:41
10	3809	rais\$3 near3 fib\$5	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 15:13
11	33268	((fabric or textile or woven or cloth or leather) same (pile or nap\$5 or sheared or tuft\$4 or floc\$5)) or (rais\$3 near3 fib\$5)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 15:13
12	1798	((((fabric or textile or woven or cloth or leather) same (pile or nap\$5 or sheared or tuft\$4 or floc\$5)) or (rais\$3 near3 fib\$5)) and (((428/36.1,36.2,85-97,151,904) or (442/149-151,286,402) or (28/104,105,107,159,167,216,217)).CCLS.)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 15:13
13	159	((((fabric or textile or woven or cloth or leather) same (pile or nap\$5 or sheared or tuft\$4 or floc\$5)) or (rais\$3 near3 fib\$5)) and ((satin or sateen) near7 (weave))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 15:36
1	37	dalbec	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 15:35
14	580	(139/2,3,5,37,116.5,391,399).CCLS.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 15:35
15	9073	((139/2,3,5,37,116.5,391,399).CCLS.) or (((428/36.1,36.2,85-97,151,904) or (442/149-151,286,402) or (28/104,105,107,159,167,216,217)).CCLS.)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 15:36

16	40474	((((139/2,3,5,37,116.5,391,399).CCLS.) or ((428/36.1,36.2,85-97,151,904) or (442/149-151,286,402) or (28/104,105,107,159,167,216,217)).CCLS.)) or (((fabric or textile or woven or cloth or leather) same (pile or nap\$5 or sheared or tuft\$4 or floc\$5)) or (rais\$3 near3 fib\$5)))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 15:36
17	204	((((139/2,3,5,37,116.5,391,399).CCLS.) or ((428/36.1,36.2,85-97,151,904) or (442/149-151,286,402) or (28/104,105,107,159,167,216,217)).CCLS.)) or (((fabric or textile or woven or cloth or leather) same (pile or nap\$5 or sheared or tuft\$4 or floc\$5)) or (rais\$3 near3 fib\$5))) and ((satin or sateen) near7 (weave))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 15:37
18	73	(((((139/2,3,5,37,116.5,391,399).CCLS.) or ((428/36.1,36.2,85-97,151,904) or (442/149-151,286,402) or (28/104,105,107,159,167,216,217)).CCLS.)) or (((fabric or textile or woven or cloth or leather) same (pile or nap\$5 or sheared or tuft\$4 or floc\$5)) or (rais\$3 near3 fib\$5))) and ((satin or sateen) near7 (weave))) and adhesive	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 16:02
19	4	"083847"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 16:02
20	2	"10083847"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 16:03
21	5	charles near2 dalbec	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 16:03
22	31667	(fabric or textile or woven or cloth or leather) same (pile or nap\$5 or sheared or tuft\$4 or floc\$5 or sued\$4)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 16:42
23	51	((sateen or satin) same (weave)) same ((fabric or textile or woven or cloth or leather) same (pile or nap\$5 or sheared or tuft\$4 or floc\$5 or sued\$4))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 16:43
25	1	adhesive and (((sateen or satin) same (weave)) same ((fabric or textile or woven or cloth or leather) same (pile or nap\$5 or sheared or tuft\$4 or floc\$5 or sued\$4))) not ((((((139/2,3,5,37,116.5,391,399).CCLS.) or ((428/36.1,36.2,85-97,151,904) or (442/149-151,286,402) or (28/104,105,107,159,167,216,217)).CCLS.)) or (((fabric or textile or woven or cloth or leather) same (pile or nap\$5 or sheared or tuft\$4 or floc\$5)) or (rais\$3 near3 fib\$5))) and ((satin or sateen) near7 (weave))) and adhesive))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 16:43
26	157	(442/203).CCLS.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 16:44
27	0	((((sateen or satin) same (weave)) same ((fabric or textile or woven or cloth or leather) same (pile or nap\$5 or sheared or tuft\$4 or floc\$5 or sued\$4))) not ((((((139/2,3,5,37,116.5,391,399).CCLS.) or ((428/36.1,36.2,85-97,151,904) or (442/149-151,286,402) or (28/104,105,107,159,167,216,217)).CCLS.)) or (((fabric or textile or woven or cloth or leather) same (pile or nap\$5 or sheared or tuft\$4 or floc\$5)) or (rais\$3 near3 fib\$5))) and ((satin or sateen) near7 (weave))) and adhesive)) and ((442/203).CCLS.)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 16:44

24	40	(((sateen or satin) same (weave)) same ((fabric or textile or woven or cloth or leather) same (pile or nap\$5 or sheared or tuft\$4 or floc\$5 or sued\$4))) not ((((139/2,3,5,37,116.5,391,399).CCLS.) or (((428/36.1,36.2,85-97,151,904) or (442/149-151,286,402) or (28/104,105,107,159,167,216,217)).CCLS.)) or (((fabric or textile or woven or cloth or leather) same (pile or nap\$5 or sheared or tuft\$4 or floc\$5)) or (rais\$3 near3 fib\$5))) and ((satin or sateen) near7 (weave))) and adhesive)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 16:44
28	17	(artificial or man-made or manmade or synthetic or simulat\$3) same (nap\$5 or pile or leather or vinyl or sued\$4 or tuft\$3 or floc\$5) same ((weave) same (satin or sateen))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 16:52
29	56	leather and ((weave) same (satin or sateen))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/31 16:52



(11) Publication number : 0 503 779 A1

(12) EUROPEAN PATENT APPLICATION

(21) Application number : 92301354.4

(51) Int. Cl.⁵ : D03D 15/00, D06N 3/06

(22) Date of filing : 19.02.92

(30) Priority : 11.03.91 US 667012

(43) Date of publication of application :
16.09.92 Bulletin 92/38

(84) Designated Contracting States :
AT BE CH DE DK ES FR GB GR IT LI LU MC NL
PT SE

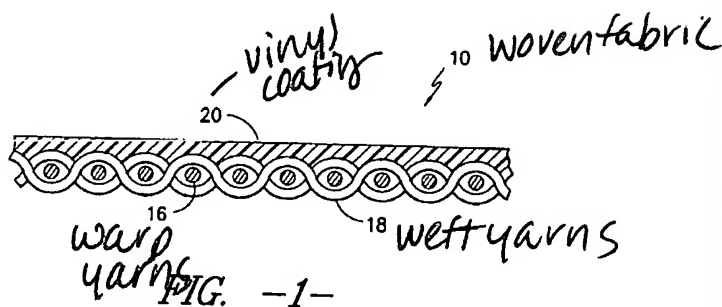
(71) Applicant : MILLIKEN RESEARCH
CORPORATION
Post Office Box 1927
Spartanburg South Carolina 29304 (US)

(72) Inventor : Dalbec, Charles Ernest
88 Woodwind Drive
Spartanburg, South Carolina 29302 (US)
Inventor : Hobson, Marshall Sharpe
1203 Hobby Lane
Anderson, South Carolina 29621 (US)

(74) Representative : Pacitti, Pierpaolo A.M.E. et al
Murgitroyd and Company Mitchell House 333
Bath Street
Glasgow G2 4ER Scotland (GB)

(54) Convertible fabric.

(57) A single ply convertible top fabric comprising
a sateen woven fabric using a blend of solution
dyed polyester and cotton yarn coated with a
PVC vinyl.



*nothing
about
a pill nap.*

EP 0 503 779 A1

This invention relates to a single ply woven fabric for use, in particular, in the manufacture of tops for convertible automobiles.

Prior to this invention convertible tops were manufactured from 100.% cotton woven fabrics which were dyed after they were woven. These tops tended to age and tear after a period of time causing necessary premature replacement of the top. The prior art tops also tended to discolor and stain as they age resulting in a displeasing appearance to the car on which it was installed.

Therefore, it is an object of the invention to provide a stronger substrate for convertible tops which, when dyed, do not allow the dye to migrate or bleed through the vinyl coating.

Other objects and advantages of the invention will become readily apparent as the specification proceeds to describe the invention with reference to the accompanying drawings, in which:

Figure 1 is a cross-section view of the single ply fabric used in the automobile convertible top shown in Figure 2.

Looking now to the drawings the reference number 10 represents a single ply coated woven fabric for use in a convertible top 12 for an automobile or truck 14. The woven fabric 10 consists basically of warp yarns 16 and weft yarns 18 woven into a substrate which is coated with a vinyl 20, such as PVC, to provide a single ply coated fabric 10 for use in making the convertible top 12.

In order to increase the strength of the substrate and consequently the strength of the convertible top, polyester yarn is employed. Since polyester yarn does not absorb dyestuffs readily it is necessary to use solution dyed polyester yarn. The term solution dyed yarn refers to yarn produced from an extruder or spinneret in which the dyes have been mixed with the molten yarn material prior to production of the yarn.

In the preferred form of the invention the warp and weft yarns are a 332 denier 65/35 blend of solution dyed carbon black polyester and cotton woven in a screen weave. The finished fabric construction is 65" wide with 82 ends per inch and 42 picks per inch. The finished fabric has been dyed black so that the cotton therein shall be the same color as the solution dyed polyester yarn. Once the fabric has been coated with vinyl the dye in the solution dyed polyester yarn does not bleed or migrate through the vinyl coating to cause a discoloration thereof.

As noted above a 65/35 blend of polyester/cotton is preferred but other blends such as 50/50 can be used so long as the polyester in the blend is solution dyed.

The herein-described substrate fabric uses a blend of solution dyed polyester yarn and cotton which substantially reduces contamination during warping, slashing and weaving but which allows more efficient weaving. Furthermore, as compared to con-

ventional cotton convertible top substrate fabrics it has increased tensile and torque wear strength and the dye in the polyester fibers does not bleed or migrate through the vinyl coating of the convertible top fabric.

Although the preferred embodiment of the invention has been described it is contemplated that many changes may be made within the scope of the invention and it is desired that the invention be limited only by the claims.

Claims

1. A single ply convertible top fabric comprising: a woven substrate fabric and a vinyl coating on said woven fabric, said woven fabric having a blend of solution dyed polyester yarn and cotton in both the warp and weft.
2. The fabric of Claim 1 wherein the polyester cotton blend is 65/35.
3. The fabric of Claim 1 wherein the polyester is carbon black solution dyed.
4. The fabric of Claim 3 wherein the polyester cotton blend is 65/35.

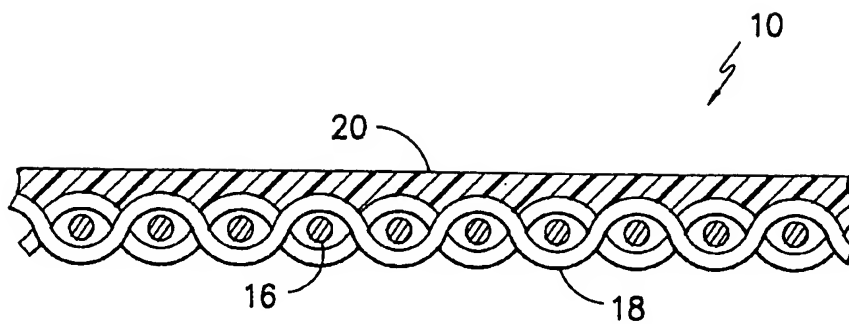


FIG. -1-

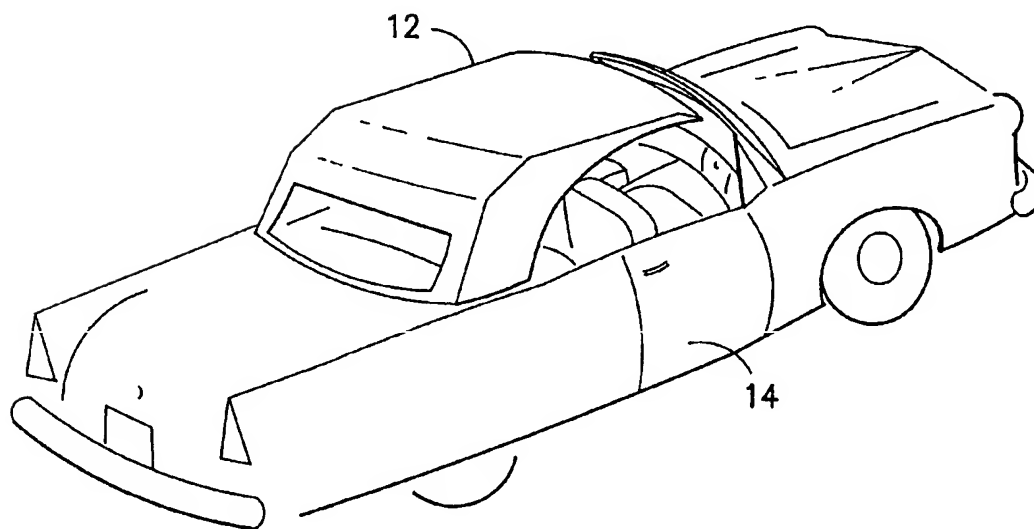


FIG. -2-



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

EP 92 30 1354

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	US-A-4 298 645 (TSUTOMU OBAYASHI) * column 1, line 1 - column 4, line 36 * ---	1-4	D03D15/00 D06N3/06
A	EP-A-0 412 196 (E. I. DU PONT DE NEMOURS & CO.) * page 3, line 15 - page 5, line 25; figures 1,2 * ---	1-4	
A	EP-A-0 377 813 (GEBR. HAPPICH GMBH) * the whole document * ---	1	
A	DE-A-2 557 818 (SANDOZ-PATENT-GMBH) -----	1	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			D03D D06N D01F
Place of search THE HAGUE		Date of completion of the search 23 JUNE 1992	Examiner HENNINGSEN O.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

EPO FORM 1501/92 (P0401)